



Smithsonian Institution Archives

Waltham Clock Company
Videohistory Collection, 1989

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Collection Overview

Repository:	Smithsonian Institution Archives, Washington, D.C., osiaref@si.edu
Title:	Waltham Clock Company Videohistory Collection
Identifier:	Record Unit 9548
Date:	1989
Extent:	4 videotapes (Reference copies). 5 digital .wmv files and .rm files (Reference copies).
Creator::	Waltham Clock Company
Language:	English

Administrative Information

Preferred Citation

Smithsonian Institution Archives, Record Unit 9548, Waltham Clock Company Videohistory Collection

Historical Note

The Waltham Clock Company of Waltham, Massachusetts, the modern successor to the first American watch manufacturer, Waltham Watch Company, was founded in 1850. Waltham employees pioneered the machines and techniques necessary for the mass-production of pocket watches that made the company the dominant American watchmaking manufacturer in the nineteenth and early twentieth centuries. The electronics revolution, beginning in the early 1970s, made mechanical watches and watchmakers nearly obsolete. At the time of the video recording, Waltham Clock was the last firm in the U.S. still producing mechanical watches. Employees made government-specified aircraft "clocks" (actually large eight-day mechanical watches), similar to ones originally designed during World War II, for installation in extremely high-technology cockpits. These mechanical timekeepers served as back-up in case of failure of the electronic timekeeping and navigation instruments in the cockpit.

Introduction

The Smithsonian Videohistory Program, funded by the Alfred P. Sloan Foundation from 1986 until 1992, used video in historical research. Additional collections have been added since the grant project ended. Videohistory uses the video camera as a historical research tool to record moving visual information. Video works best in historical research when recording people at work in environments, explaining artifacts, demonstrating process, or in group discussion. The experimental program recorded projects that reflected the Institution's concern with the conduct of contemporary science and technology.

Smithsonian historians participated in the program to document visual aspects of their on-going historical research. Projects covered topics in the physical and biological sciences as well as in technological design and manufacture. To capture site, process, and interaction most effectively, projects were taped in offices, factories, quarries, laboratories, observatories, and museums. Resulting footage was duplicated, transcribed, and deposited in the Smithsonian Institution Archives for scholarship, education, and exhibition. The collection is open to qualified researchers.

Descriptive Entry

Carlene E. Stephens, curator of mechanisms in the Division of Engineering and Industry at the Smithsonian's National Museum of American History (NMAH), conducted a videotaped tour of the Waltham Clock factory to document operating machinery, and to record the process of making and testing mechanical watches. During the sessions, which took place on June 27 and 28, 1989, Stephens spoke with employees who represented a range of factory operations.

In Session One, Stephens interviewed Joseph "Chuck" Martin and Marie Bastarache in Secondary Operations about jewel setting and balance screw insertion; David Buccheri, Charlie Paradis, and Vincent Rhoad, in the machine shop, about making screws on three generations of machines; and Richard Halstead and Edward Pitts, in the heat-treating room, about making hairspring coils.

In Session Two Stanford James spoke about quality testing of the watches; John Valmas demonstrated subassembly and final assembly operations; and Bruce LeDoyt discussed the need for engineering and maintenance within the factory. Edward Murphy, Tam Thi Le, Richard Welch, and Savay Xayavong assisted with demonstrations in the assembly process.

This collection consists of two interview sessions, totaling approximately 5:40 hours of recordings and 170 pages of transcript

Artifacts and documents from the Waltham Watch Company are located in the Division of Work and Industry, NMAH, accession number 225.117. For more information, please contact the Division of Work and Industry, National Museum of American History.

Names and Subject Terms

This collection is indexed in the online catalog of the Smithsonian Institution under the following terms:

Subjects:

- Clock and watch making
- Interviews
- Machinery
- Oral history
- Pocket watches
- Science -- History
- Technology -- History

Types of Materials:

- Transcripts
- Videotapes

Names:

Bastarache, Marie
Buccheri, David
Halstead, Richard
James, Stanford
LeDoyt, Bruce
Martin, Joseph
Murphy, Edward
Paradis, Charlie
Pitts, Edward
Rhoad, Vincent
Stephens, Carlene E., 1949- , interviewer
Thi Le, Tam
Valmas, John
Waltham Clock Company
Waltham Watch Company
Welch, Richard
Xayavong, Savay

Container Listing

Interviews

Interviews

Session 1: June 27, 1989

Interviews

In Secondary Operations and the basement machine shop of the Waltham Clock Company, documented operations related to the making and assembling of the watch balance, c. 1880-1989, including: Jewel setting demonstration; description of balance wheel function; hole tapping of balance wheels; balance screw insertion; the manufacture of balance screws using three generations of screw-making machines; mainspring and balance spring making; and heat treating of various watch parts. Visual documentation included: Use of jewel setting press machine and gauge; instruments associated with balance wheel hole tapping and balance screw insertion; operations of a Waltham Vander Woerd screw-cutting machine, a modified Swiss-made Tournos screw-cutting machine, and the modern numerically-controlled Nomura screw-cutting machine; rolling mill, optometer, and other instruments associated with construction of mainsprings and balance springs; and use of the atmosphere furnace and pyrometer for heat treating.

Interviews

Transcript, 1-85 pages, videotape recording, 2 hours, 40 minutes.

Interviews

Video Recordings of Interviews: Total Recording Time: 2 hours, 40 minutes

Note:

- Original Masters: 8 Beta videotapes
- Preservation Masters: 8 Motion jpeg 2000 and 8 mpeg digital files
- Dubbing Masters: 3 U-matic videotapes
- Reference Copies: 2 VHS videotapes, 3 Windows Media Video and 3 Real Media digital files

Interviews

Session 2: June 28, 1989

Interviews

In the Testing Operations room and the Final Assembly room of the Waltham Clock Company, documented final testing and timing of the watches, subassembly relating to balance and balance springs, and final assembly of the movement and casing, c. 1989, including: Testing watches with timing machine for accuracy; testing of the watches' hand assembly, especially the "tote" hand; insertion of crystal over the watch face; brightness testing of lighted dial faces; master hydrometer and micrometers; discussion of environmental extremes testing procedure; subassembly of the balance and balance spring; use of watchmaker's workbench; hairspring truing; final assembly of dial, watch hands, and crystal; installation of the outer casing; and discussion of engineering and maintenance requirements for factory operations. Visual documentation included: Various timing machines; light testing booth and equipment; detailed close-ups of working parts of the watches; watchmaker's workbench; tools associated with subassembly of

balance and balance springs; and tools associated with final assembly and casing.

Interviews

Transcript, 1-85 pages, of videotape recording, 4 hours.

Interviews

Video Recordings of Interviews: Total Recording Time: 4 hours

Note:

- Original Masters: 9 Beta videotapes
- Preservation Masters: 9 Motion jpeg 2000 and 9 mpeg digital files
- Dubbing Masters: 2 U-matic videotapes
- Reference Copies: 2 VHS videotapes, 2 Windows Media Video and 2 Real Media digital files